The Digital Web:

Reflections on Virtual Space Communities

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"Some modern thinkers state that beyond the rootlessness characteristic of the present early stages of technological society, human beings are now called to new ways of being rooted which will have passed through modern rootlessness, and will be able at one and the same time to accept the benefits of modern homogenization, while living out a new form of heterogeneity" (George Grant, **Technology and Justice**, p. 24).

"Geography may be the way man has located himself in the universe - but other instruments are more effective in locating himself among men." (Jacqueline Scherer, **Contemporary Community: Sociological Illusion or Reality?** p. 19)

"She fancied that he looked sad. She could not be sure, for the Machine did not transmit **nuances** of expression. It gave only a general idea of people - an idea that was good enough for all practical purposes."

E.M. Forster, "The Machine Stops," in **Of Men and Machines**, ed. Arthur O. Lewis, Jr. (New York: E.P. Putton, 1963), p. 266.

Communities have always existed - and will continue to do so - because man is basically a social creature, unable to live independently. Modern communities, however, are not as visible and as clearly defined as in the past. Such factors as geographical isolation, ethnic differences, common dedication to a total life-scheme, tradition, continuous association, and distinctive life-styles are no longer the sole dominating characteristics of modern association. In our dynamic age, social structures are fluid and vague. As quickly as the social forms are identified and understood, they change. The process of locating the forms of modern community involves a critical investigation of many different kinds of sociability, often far afield from traditional areas of research (Scherer 1972: 2-3).

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Preamble

In **Communication Technologies and Society: Conceptions of Causality and the Politics of Technological Intervention** (1984), Jennifer Daryl Slack outlines three approaches to the control of technological growth and the effects of particular technologies: Technology Assessment, Alternative Technology, and Luddism. Technology Assessment is an approach developed to enable governments to assess the positive and negative effects of technology. Equating technological development with progress, this approach tends to enhance the positive, secondary, delayed, and unintended effects of technology (Slack 1984: 16). Within this perspective, technologies are understood outside of the political, economic, and ideological considerations that legitimate them (Rakow 1988: 58). The Alternative Technologies approach, represented by writers such as Ivan Illich, tends to be associated with the countercultural movement in that both share a sense of alienation from corporatism and its use of technology (Ibid.: 30). Defined in individualist rather than social terms, technology is seen as able to enhance personal development and growth (Ibid.: 34). Technological issues, problems, and solutions are considered to be adaptable to liberatory purposes and the computer in particular is described as being capable of serving the goals of social and public service as well as environmental improvement (Ibid: 35). Slack notes that followers of the Alternative Technologies movement

acknowledge and set out to critique the close "relationship between technologies and social organization, structure, and values" (Ibid.: 38). However, the complexity of their critique of societies that develop and uses technologies tends to become clouded due to their fascination with technology's variable uses (Ibid.). The third approach, Luddism, named after the British workers who destroyed machinery in response to early industrialization (1811-1817), reflects an anti-technological spirit, suspicious of the equation between social progress and technological growth (Ibid. 40). Luddites argue that changing the structure and nature of technology will not solve the problems of technological impact. Instead, Luddites advocate limiting and controlling the development of technologies, which are seen as products of their social environment (Ibid.: 40-41). Lana Rakow, in an analysis of Slack's book, refers to the shortcomings of Luddism as follows: "The social system and its technologies are nearly completely reduced to a single dynamic - be that dynamic labeled "the machine," "technique," or "domination." The position allows for no social, economic, or culture conflict or contradictions of any consequences, and it assumes complete confluence between the dynamic and the nature and use of communication technologies" (Rakow 1988: 58).

Slack advocates a "new perspective on the relationship between communication technologies and social structure". . ."particularly if it is to provide the basis for effective intervention in that relationship" (Ibid.: 47). Her own approach involves a willingness to examine the contributions of technology to society. Technology, she notes, is a product of a given society knitted into the "everyday operation of a complex social structure where there is conflict and contradiction in the political, economic, legal,

and cultural spheres" (Ibid.: 48). A sound knowledge of these relationships, she argues, will afford us an opportunity to intervene in the policy direction of technological development (Ibid.).

As evident from Slack's analysis, the empirical object, the computer, the programmable machine, has been taken up and integrated into numerous other interests, such as business, government, and alternative organizational use. Furthermore, the computer as a constructed discursive object, has been spoken of from many different perspectives.

This essay critically examines one of the manifestations of Slack's "Alternative Technologies" approach. The use of the non-profit computer bulletin board network is one of the ways in which the computer has recently been appropriated by countercultural (non-mainstream) groups and subsequently described as an "alternative" organizing tool to structure "virtual space communities" or electronically-organized communities of interest. The electronic bulletin board is characterized by elements quite different from those "exhibited by such traditional communications channels as public rallies and print media. In particular, the bulletin board permits the following: consumers can view messages privately and anonymously; message content can be totally controlled by the bulletin board sponsor; on-line interaction enables participants to remain anonymous; virtually no space limitations are encountered, thus enabling in-depth messages to be presented; system operators can control access, permitting sections of the bulletin board to be open to everyone and sections open only to those users who are provided clearance" (Kay 1988: 10).

Introduction

"Widespread access to technologies of simulation (video, computer) and of conversation (networks) would make possible the rise of "autonomous reality-communities" -- social groups of politically significant magnitude defined not by geography but by consciousness, ideology and desire. Such communities would exist in virtual space, the electronic space of telecommunication, where they could function as laboratories of resocialization, as technologies of the self."

Gene Youngblood, "Since Cinema Expanded: Interview with Gene Youngblood," by Peter broderick in **Millenium Film Journal**, Nos. 16/17/18, Fall/Winter 1986-87. p. 62.

The existence of multiple virtual space community sites, constructed through access to computer bulletin boards, raises critical questions about late twentieth-century notions of community and possibilities for the democratic participation of micro-publics in social debates. The rhetoric associated with this form of virtual space community organization rings of romantic longings for a tool to fulfill the promise of using media to democratize communications. What does this rhetoric promise and how does its philosophical discourse manifest itself in practice?

What does the high-tech phenomena of the non-profit computer bulletin board mean and what might it tell us about democratic social relations and communications in the 1980's and 1990's? How does the logic of the bulletin board display, constrain, or advance democratic community relations?

Will the process of "radical spatial restructuring and

reconfiguration" (Robins 1989: 145) of community, taking place within enclaves of the computer userworld, become a widespread phenomena or will it merely remain an electronic territory for computer hackers - "those computer programmers and designers who regard computing as the most important thing in the world" (Levy 1984: 7)? Are virtual space communities a population to be reckoned with in the near future?

As the writings of Harold Innis (1951, 1972) make clear, space, place, and community have always been strategic to the politics of communications. Manifestation of new relationships among space, place, community, and technology such as those represented by the springing up of virtual space communities in late twentieth-century North America, therefore, requires some careful thinking. What is unique about virtual space communities in the context of traditional notions of community? What are some of the shifting theoretical issues of "local politics" in an age of electronically-based virtual communities?

It is very difficult to define the term "community" precisely. Bell and Newby (1971) have noted that the concept has been a concern among sociologists for the last 200 years, and that at least ninety-four definitions have been proposed, "all of which deal with people. Beyond this common basis", it is noted, "there is no agreement" (Macfarlane 1977: 2).

Since the last quarter of the nineteenth century, sociologists, especially those of the Chicago School in the early 1900's, have struggled to identify other common factors of community. Most frequently, these have been: common habitat, similar concerns and purposes, and common culture "that give to societal life at the level of the locality a

distinguishable form and character (Edwards and Jones 1976: 11). Geographical location has been central to notions of community formation and until the introduction of electronic technology was one of its key defining elements. If the traditional concept and reality of community has been framed geographically in physical space, then the idea of a virtual space community might unfold other notions of spatial frames based on imagined and unfixed boundaries, potentially extending in any direction through electronic access. Will an expanding electronic border displace physical ones?

Spatial frameworks of geographical communities no longer adequately circumscribe the associational lives of North American men and women. Among other changes due to industrialization, relatively easy access to personal computers has enabled a fair-sized portion of the population to connect with an (inter)national network of computer users. Conceptions of city-dwellers' communities as urban physical places surrounded by nonurban and/or rural territories seem limited when applied to an understanding of recent social behaviours and interactions of computer users. The architectural boundaries of their geographically-based communities can now be replaced by those of their electronically-run computer software.

This paper is a critical reflection on the countercultural virtual space community phenomena. What do these communities inform us about the structure of knowledge in the late twentieth century? Are computer bulletin boards enabling local, communities and cultures to evolve? What might their importance be in theorizing about communications, culture and broader notions of community? In this essay, the non-profit computer

bulletin board is critically described; notions of virtual space community are clarified within the context of wider debates about community; technically-mediated forms of subjectivity, association, and community are explored; and recent reflections on the democratic implications of this relatively new use of participatory technology are evaluated. It is argued that before metatheories about democratic communications and virtual space communities may be espoused, the concrete questions of privileged economic access to computer technology, the gendered bias inscribed in the technology itself, the hierarchical design limitations of most network host software[1], and other critical questions must be considered.

This research does not focus on a single computer bulletin board as an exemplar. Rather, a variety of empirical examples from recent and varied socially-oriented networking experiences are drawn upon for illustrative purposes. These include the Community Memory Project (1973; 1984- ; Berkeley, Calif.); PeaceNet; the Communication Theory and Research Forum on Bitnet, an academic bulletin board, mostly utilized by North American university faculty and students; a local Montreal, Macintosh bulletin board, called Mac-Link on which I am the only female registered subscriber; a feminist and technology network being organized in the US; and an analysis by Jack Kay of three white supremacist bulletin boards: Aryan Nations Liberty Net, W.A.R. (White American Resistance); and Liberty Bell (1988).

What is Virtual Space?

Initially, "virtual space" was a technical term used by computer

programmers and those involved in the technical details of computer design. In the seventies, however, it became appropriated by United States experimental video artists to describe the conjoining of video spaces originating from geographically-remote locations. With the use of satellite and other sophisticated hardware, Kit Galloway and Sherrie Rabinowitz, the most famous of these video artists, constructed composite-image spaces (Satellite Arts Project (1977), in which collaborative dance performances, merged electronically, and/or spontaneous physical interaction, could take place.

In other project/contexts such as Hole-In-Space (1980), Electronic Café (1984), and Light Transition (1987), they pioneered satellite-telecommunications techniques in an effort to create a "virtual telespace", an electronic context for the emergence of new forms of spontaneous mediated social interactions. Galloway and Rabinowitz showed how video superimposition of discrete space may open up possible new ways to understand the potential of telecommunications. Their experiments have become seminal in extending the frontiers of telecommunications to interactive artworks and to novel forms of long-distance, "over-the-air" social relations (Durland 1987).

The exploration of virtual space has not remained limited to the costly experiments of video artists, however. Although most people in the general public are unaware of their existence, virtual space communities have more recently come to be known by microcomputer users to refer to the structured electronic screenspace of computer bulletin boards onto which multiple users can input messages using the alpha-numeric mode. This nonplace form of community communications is one which is

structured by and extended across electronic space, and held together by common access ties to special-interest computer bulletin board systems. Thousands of electronic bulletin board systems have been established in North America and their existence has revolutionized the ability of diverse interest groups to interact with potential followers and users.

The Non-Profit Computer Bulletin Board - The Technical Site

There are two broad categories of computer bulletin boards - commercial, profit-oriented boards and non-profit ones. Commercial boards such as Compuserve (a subsidiary of H & R Block), The Source (owned by the Reader's Digest [Allor 1985: 139]), DIALOG (owned by Lockheed) or Bell Canada's Envoy Electronic Mail service use large mainframe computers and are expensive to access. Called Telematic/Télématique services (a term coined by Nora and Minc [1980]), they consist of:

> **"an electronic networked computer-communications system architecturally designed for individual users to negotiate their information with and from a central data banking facility which maintains a record of their information use. The individual, or individualized receiver, has no link with other users, and enjoys only partial knowledge of what is in the central facility" (Finlay 1987: 111).**

Telematic services emphasize centralized, vertical networking patterns (Ibid.: 152).

Non-profit boards[2] are usually of a local and/or regional nature and tend to be dedicated to microcomputer users. Also referred to as Privatique (term coined by Lussato and Bounine in 1979) in the new communications technology literature, this type of network "accentuates horizontal, limited, localized, person-to-person terminal links of interaction" (Ibid.: 152). These are characterized as having dialogical potential in that a horizontal interactional communications structure can potentially by-pass the central control terminal (Ibid.: 152).

Technically, a non-profit bulletin board system (BBS) is a computer system that is able to be accessed by remote users and is managed, maintained, and animated, by at least one system operator. The BBS acts like a public answering machine on which anyone with an authorized password can read and respond to all posted and personal/ private messages. The system runs specific telecommunications software which allows users operating any standard, modem-equipped computer, to leave electronic messages for one another, to upload files (transfer files to the system for others to retrieve at a later date), and to download files (retrieve files that have been uploaded by other users). Messages are entered via a simple line-oriented text editor.

There are at least two electronic territories within each board - private and public spaces. A BBS will allow users to send private electronic mail (E-mail) to other identified users and to "post" messages for public viewing by everyone, similar to a real bulletin board. Posted messages fall into a series of categories specific to the interests of the user groups. Most BBSs include some of the following categories for posted messages: Public Forums of all subjects of interest to specific

users, Debates, Odds 'n Ends, Technical News Updates, TechTalk, New Files for downloading, Computer Utilities and Tools. The inward focus on computer bulletin boards' own technology, usually most apparent in the public board side and exemplified by its enormous technical file libraries and much-used technical discussion menus, is reminiscent of the citizens band and ham radio phenomena. The electronic public forum option is reminiscent of the all-night phone-in radio talk show.

In the case of the bulletin board, the host of the textual talk show, so to speak, is the system operator who controls the parameters of the board and can even surrepticiously view the private conversation texts. System operators have an unwritten code of confidentiality and most would not break the reading privacy expectations of users, but questions about operators' access do abound because of this feature. The issue of control by the network host(s) also points to the hierarchical nature of existing BBSs. Dialogical possibilities of a democratic nature do indeed exist on BBS systems but these are within certain limits. Both software design and the need to have a system co-ordinator manage the network indicate that the kind of dialogue which occurs is a variation on interactional feedback, with the added characteristic of being able to generate new and theoretically "acceptable" discussion topics. BBSs are ultimately under the conversational control of their system operator(s).

A Challenge to Notions of Position, Subjectivity, and Traditional Associational Forms

How does the single-modality expression of one's personality

through words and texts affect one's self-representation?

Calling a computer bulletin board is a popular pastime for computer buffs and hackers. Some are known to spend whole days and/or nights on various BBSs downloading new technical files and computer utilities, chatting with others involved in common public debates, and corresponding with fellow users about personal matters. Friendships based on letter-writing develop, sight unseen, as mediated interactions form the basis of virtual communities of interest. Ongoing subterranean relationships develop among persons who have not and probably never will meet each other on a face-to-face basis, yet know each others' opinions about a given subject quite well from having electronically interacted for lengthy periods of time. These 'invisible' networks are reshaping associative forms in the interstices of dominant social formations.

The computer bulletin board represents new ways of constructing and constituting the self and the social subject in interaction. As Allor points out in a recent article on the computer apparatus, the computer "as a projective medium offers an asocial space that simulates the experience of sociality. In doing so it offers, quite concretely, a new form of interaction and a new modality of being constituted in interaction" (Allor 1985: 140). Bulletin board users, though captured by the hierarchical architecture of the computer's machine languages, can move in and about the virtual social space defined within the parameters of their software connections, and experimentally (mis)represent themselves as they wish. Users can choose to be completely honest in their self-disclosures. Alternatively, total or partial anonymity can be maintained if desired, through the use of an alias. In this way, new personae can be tried on and

removed at will, as users shift back and forth among different boards. The bulletin board is a bounded electronic space through which experimental and nomadic subjectivities (Grossberg, 1987) may wander.

The notion and manifestations of virtual space communities present a challenge to traditional ideas of position, location, and technological impact. The location from where one speaks, one's personal, social, political, economic, and regional placement within a given society, has become an important preoccupation in cultural analysis (Innis, 1951, 1972; Hall, 1985, 1987). Feminists such as Spivak (1988), Probyn (1988), post-modernists (Kroker and those writing in the Canadian Journal of Political and Social Theory), and anthropologists (Geertz, 1973, 1983), Marcus and Fischer ((1986), Clifford (1986) and Dominguez (1987), among other scholars, are amidst heated debates on 'position' as an analytic theme. As a critical factor in cultural formations and social relations, "position" criss-crosses the class, race, gender, (dis)ability, age, time, and geographical considerations of a given social formation and of the individuals of which it is an composed.

The existence of virtual space communities calls for yet another reading of these considerations. Computer bulletin boards technically offer users anonymity with respect to race, gender, (dis)ability, and age due to the absence of their physical contact with one another. Within the parameters of the bulletin board, there does not exist the same pressures to tell the truth about oneself because there may not necessarily be any reality checks to verify what one reveals. Users, therefore, have no necessary compulsion to accurately and completely identify any of the aspects of their material identities and can thus choose to operate outside

of the frame of others' projected stereotypes. This characteristic opens up the enticing possibility of using a pseudonym and of developing one's own character fiction. In particular, this is an attractive feature to those whose social and interpersonal skills in a face-to-face conversation are less than adequate.

The non-profit computer bulletin board, more than any other existing medium, offers the user this illusion of a floating series of novel choices about how to (re)present one's public identity and status positions. I say "illusion" because I believe that eventually social differences become evident through linguistic interaction, despite conscious efforts to camouflage who one is. If this kind of marginalization from one's essential identity and the optional shiftiness in one's self-representation does affect authentic communications, and I propose it does, what happens to the possibilities for honesty and genuine public debate in the context of virtual space communities?

Text and Cultural Production on the Non-Profit Bulletin Board

The BBS and its web of interconnecting computers are the technology through which specific group-initiated preoccupations and conversations are generated and documented. Conversations, in which texts are retained on-line, are usually ongoing and can sometimes last for months. Following the route of an interesting conversation is often disconcerting. Conversation asynchronously volleys back and forth among discussants. Sometimes tracks are redefined, sometimes ideas generate sub-conversations about a completely different topic and a track is not

readdressed until much later on in the discussion. There is no expectation that messages will be picked up and answered the same day. Persons, therefore, call in at their own convenience 24 hours per day, making conventional conversational turn-taking rules and scheduling of synchronous discussions optional (Schegloff 1972). Different and more flexible uses of time in written conversation, therefore, are attractive to bulletin board users whose busy schedules do not necessarily enable them to meet in common places or even to telephone each other at assigned times.

In order for one computer to telecommunicate with another of a different make, i.e. if a Macintosh owner wants to converse with an IBM owner, the crossover protocol utilized has to be a compatible one and this means that a code with the lowest common denominator has to be employed. Multiple computers, therefore, have access to each other only through one common code, ASCII, which is composed of the standard alpha-numeric keyboard symbols. In other words, bulletin board users can telecommunicate (cross-talk) with other users owning different computer products only through writing and reading text transmitted in ASCII code.

This implies that users of computer bulletin boards end up spending all of their active on-line time writing text and their passive time reading others' texts and up/down-loading files intended for shared consumption. All BBSs store immense amounts of electronic text. BBS users are, therefore, writers and what they write becomes the basis of their public and private (dis)connections to one another. In many ways, the phenomenon is similar to pen-pal letter writing.

BBS textual products, whether personal fragments of

conversations or extracts of scholarly work to be made public via the bulletin board, are quite different from text produced on paper. As noted by Marcia J. Bates in a recent debate on the positive and negative aspects of electronic journal publishing taking place on a non-profit scholarly international bulletin board entitled CRTNET (Communication Research and Theory Network):

"There is a very real sense in which science (and all scholarship, for that matter) exists primarily in some sort of archival, recorded form. . . . After all, in what other place does it exist except in people's heads? The accomplishments of hundreds of years of science do not exist in the laboratories of biologists or psychologists. If you look around a psychologist's lab you do not see what he or she has learned about memory. That knowledge exists only in people's heads and on paper. And people have a nasty tendency to die. The record of all we have accomplished is in journals and books that can be accessed at any time, not just at the moment when published. An electronic journal, therefore, should also appear in some more permanent form that can be accessed by students and future generations" (Bates CRTNET: May 24, 1989; 19:53 PDT).

Texts produced on the bulletin board are by their very nature impermanent because they can be erased easily with one electronic zap. This characteristic often (though not always) tends to shape the degree of seriousness with which writers commit words to the screen. What does one write about when it is known that traces of your writing might not remain on the screen after it is read by a few interested parties? And how seriously can words be interpreted by BBS readers? The risk of trivial electronic conversations seems very high.

Also contributing to the tendency toward trivial messages is the factor that within the computer speech community, there are not yet any

standardized emotional or paralinguistic markers to underline intended meaning of texts. Nor are there in any other writing community, the reader might add. But the computer network is different in that conversations tend to be stylistically more similar to oral conversation than to the formal written text, and usually within the oral interaction, one can draw on metacommunicative markers to qualify one's messages. With this so-called deficiency defined, random efforts to design a paralinguistic computer text code have occurred, one of the more recent being generated by two feminist computer network planners, Judy Smith and Ellen Balka (1988). Out of their concern for potential depersonalization on their proposed "Women and Technology" network, Judy Smith writes:

". . . since users will never really see, hear or touch each other, we want to design our system so it allows for personalities to emerge, and emotions to show. We'll have to develop some new non-verbal signals. Or maybe we can design a feminist graphics package that can add in the emotional cues" (Smith and Balka 1988: 90).

Without these, Smith and Balka argue, how is one to read the metacommunicative aspects of an isolated strip of text? What kind of generic or flat culture can be produced on non-profit bulletin boards? The cultures produced by electronic discourses can rapidly fade into cybertraces of interactive processes because with one userzap, these texts can disappear into the digital web of computer technology. The interpersonal, local, and regional cultures that are evolving are textually-based, ephemeral, and thus quite different from traditional

notions of community cultures and associative patterns.

Virtual Space Communities
Context for a Democratic Discourse

What attracts users to this form of communications media and culture? Who operates these systems of microcomputer communications and in whose interest do they function? Who most frequently accesses them? What are their perimeters?

Bulletin boards tend to be of three sizes: small and local, medium-sized and regional, and large and national or international. Most small and local boards are operated and managed by one or two computer hackers. The lifespan of a local board varies, depending on the group of users attracted and the commitment of the system operators to its maintenance. For example, the local Montreal board Mac-Link has approximately 20 very active users engaged in ongoing conversations, with occasional users numbering about 100. It was established initially by a doctoral student to enable a limited group of research team members to exchange information about a specific medical project. The initiator of the board subsequently realized that the full potential of the bulletin board host software was not being utilized and proceeded to open up a public-access side and advertise by word of mouth and through other electronic networks that a new general board was operational. Most, though not all Mac-Link users, are owners of Macintosh computers. After three years, the board is still managed by the same system operator with the assistance of another very active user/operator. They both regard the

board as a time-consuming hobby and are dedicated to animating the discussion and keeping the board in efficient and working order. A small cost per month is requested of each user in order to defray the cost of the necessary telecommunications software and maintenance.

The twenty active Mac-Link network users are aware of the relationship between their own and other virtual space communities. Some wax philosophical about the meaning of the BBS in late twentieth century. One of the system operators, Henry See, perceives the bulletin board phenomena in terms of what he calls "the digital web":

The "information revolution" is nearly always discussed from the point of view of "information" and almost never discussed from the point of view of human beings. Electronic Bulletin Boards and on-line services are defined as places where "information" is "exchanged," a definition which emphasizes the aspect of information as a commodity and the BBS as marketplace, a notion "at home" in a world dominated by an economistic vision.

Yet much more important is the human contact. People from a wide variety of backgrounds share their experience, ideas, and feelings and form new virtual communities based not upon class, race, economic standing, or one's role in society, but rather upon their interests as individuals. As diverse tribes were welded together into nations as an accompaniment to the formation of the national market during the rise of capitalism, perhaps we can dream of the counter process, of the emergence of a new society based upon decentralized virtual communities, bright jewels encompassing the world in a digital web wherein we do not "exchange information" but rather share those qualities which most make us human.

Democratic claims about the liberation potential of the social/political network system exist in medium sized boards too. These tend to be operated as an extension of non-profit socially-oriented

organizations, such as the Community Memory project. Others like the white supremacist boards Aryan Nations Liberty Net, W.A.R. (White American Resistance) and Liberty Bell (three U.S.-based boards) are labelled disestablishment BBSs because they aim to organize and promote hatred and racism.

A good example of a BBS which characterizes itself as promoting democracy is the historically important alternative bulletin board, the Community Memory Project, which began in Berkeley, California in 1973, operated for 14 months, and was reactivated in 1984. Described as a public information channel for community communications and information exchange,

Community Memory's stated and most obvious goal is to demonstrate that computer information systems can be built that will help people to meet other people with similar interests, in effect to create an electronic public space.

Community Memory . . . demonstrates, in a concrete way, that we can design new technologies to serve our own chosen ends. It is critical because it contrasts itself with the productions of the telecommunications corporations, and challenges their reduction of human social interaction to the passive consumption of information commodities (Athanasiou 1985: 50).

Its broad emancipatory claims are elaborated in an assessment of its historical practice by Tom Athanasiou. In his article entitled "High-Tech Alternativism: The Case of the Community Memory Project" (1985), he outlines the democratic potential of a

'de-massified' mass-media. Such media would be based upon the integration of computer technology into electronic communications systems in

such a way as to support a wide range of active individual initiatives. They could provide for the elimination of the distinction between producers and consumers of information, encourage public conversations and, by virtue of being embedded within community social institutions, empower rather than pacify their users.

. . . such media as this will certainly play a role in the organization of public life. . . the liberatory potential of solar power will not be realized during the Age of Capital, and the same is true of information technology. The impulse to develop non-hierarchical communications systems contains a real moment of rebellion against the hierarchical logic that today dominates technical design (Ibid.: 37 - 38).

BBSs like Peacenet, CRTNET - a dialogue forum located within the Bitnet menu, and a proposed feminist chat network operate within the US national and international spheres.

Peacenet (operated by the Institute for Global Communications) is a non-profit network joining 2300 users and 300 organizations together in 70 countries. Electronically linking international peace, economic development and environmental movements, founders perceive Peacenet as an organizing tool for social activists. In promotional literature about its service, Peacenet writes of its founding constituencies:

What these groups shared was a dedication to helping progressive social change organizations improve their communication and effectiveness through the use of computer resources. They chose non-profit status to indicate partnership with the groups who would be served rather than a vendor-client relationship. This collaborative approach invited deep dedication from the system designers, programmers, and other technical and management people who built the system (Miller 1988: 5-6)

Outstanding members of this male-dominated environment, the proposed "Women and Technology" network designers also conceive of their BBS as a unique means to democratize their communications and organizational opportunities in an international context.

Computer technology does increase access to information and what we can do with that information. For the first time, even here in Missoula, Montana, I can be hooked up with feminists throughout the country and around the world. I can share resources; I can know I'm not alone. . . For those of us who are part of social change movements, who often don't feel a part of much of the culture around us, we need to know there are lots more of us out here. I can live most anywhere, places where feminists are few and far between, and still be part of a feminist reality. Then I don't have to depend on the commercial media which I already know denies me information about feminist projects. Literacy is an empowerment tool for the disenfranchised; that's why so many Third World liberation groups have literacy campaigns. Computer literacy can be the same type of liberating force for women in a technological society.

. . . When we need to mobilize large numbers of people, computers give us possibilities we didn't have before (Smith and Balka 1988: 88-89).

While socio-political projects like Community Memory, Peacenet, and the Women and Technology network espouse emancipatory claims, disestablishment BBSs also voice their right to exist, to dissent, and to promote hatred to "believers" within a "democratic" and free society (Kay, 1988). Controlled solely by their sponsoring groups (as are all BBSs), U.S. white supremacist organizations are employng BBSs as a communications strategy to record their rhetorical culture and to elaborate their ideas which are "inevitably lost within the milieu of socially acceptable symbols and claims which dominate traditional channels of mass

communication" (Kay 1988: 3). After signing onto Chicago Liberty Net, an affiliate of the Aryan Nation Liberty Net, the user is greeted with a statement immediately indicating the political position of this BBS. Note the underlying implication that this is an alternative information service designed to offset the liberal information distorters at the other end of the political spectrum.

If you are an anti-communist you have made the right connection. If you love the heritage, culture, and traditions of the white race then you are at home. If on the other hand you are consumed with one of the modern malignant social diseases such as liberalism, atheism, or egalitarianism, then you most definitely dialed the wrong number. This system is dedicated to the interest and needs of white people. We wish to bring the most lied to people on the face of the earth, the truth as we see it. For once it is hoped to provide you with the other side of issues that affect you on a daily basis. This system is made possible by the work, sacrifice, and most of all

- Love -

of those who fight for faith and folk (Ibid.: 12).

About mainstream media, they state:

This board has been set up for the purpose of distributing information to the general public. It and other computer information banks like it around the country are designed to thwart the control of news, ideas, and information.

The news media, opinion moulder [sic], the federal government and other would be "thought police" of this country have to a great degree been successful in controlling the information that you take in from day to day. A resultant effect of this control is that a one sided and distorted mental picture is formed about events in this country and around the world. . . .

We sincerely hope that by use of this board you can free yourself from the misconceptions fostered on you by the information distorters of the

controlled news media concerning those who fight for race and nation (Kay 1988: 12-13).

Like other openly-accessible BBSs, the white supremacists' rationale for their service is based on the principle of the right to information within the context of a democratic society.

Although these are only a few examples, the reader can get a good sense of the rhetorical texture of BBS democratic discourses. There are at least three ways in which the democratic basis to this rhetoric on virtual space communities may be challenged. These include the technology's utilization by a predominantly male population, the privileged economic status of BBS users, and the hierarchical structure designed into BBS software.

Turkle (1988), Allor (1985) and Charland (1985) suggest that computer-based communication systems privilege rational, male discursive styles and values which objectify and embody the "procedural, mechanical, and rule-governed" values of the Enlightenment (Charland 1985: 118). From available BBS user lists and statistics, it is evident that most non-profit computer bulletin board space is occupied by young, male hackers (mostly of high-school age) who have adopted pseudonyms and are keen on elaborating temporary and eccentric personalities, "for kicks".[3] If most users and network system operators are male, as research to date indicates, this suggests that most bulletin boards are a gendered technology. Furthermore, computer bulletin boards are most frequently used by privileged men with middle-to-upper level incomes who can afford the equipment necessary to participate in this activity.

The following sample BBS user profile is not atypical of BBSs throughout North America, though it attracts particularly well-educated and high-income earners more consistently than do privately-run boards. The Communication Research and Theory Network (CRTNET) is an international electronic debates forum in which university scholars, researchers, and student participate. It is financially subsidized by university computer centres. According to discussion texts on CRTNET, users tend to be addicted to BBS use and often spend as much as 11 hours per week on-line (Alan R. Bechtold, CRTNET, April 6, 1988). In a recent survey by Info-Mat (March, 1988), their readers are almost all male, between the ages of 25-50, fully employed at skilled occupations, earning salaries in the range of $20,000 to $75,000. Each of their respondents has spent an average of $4,870 of their computer system (Ibid.) CRTNET has a more limited number of known international readers with recent figures being: 32 in Canada, 2 in Japan, 4 in Mexico, 263 in the USA, 34 in Europe and 2 in Israel. It is interesting to note that in response to a question about who CRTNET readers were, an answer was produced to indicate where they were instead. The impression of Tom Benson, editor of CRTNET at Penn State University, about the board's users is as follows:

My impression is that it is a mixture of students and scholars who are formally identified with communication disciplines in academic settings, and lots of other interested people in related fields: philosophy, history, computer science, psychology, information sciences, literature, and so on. No doubt a lot of what happens in CRTNET seems like shop talk to those readers whose interests are general -- and I would like CRTNET to serve not only as a "professional" house organ of sorts but also as a forum where interested people can correspond about what is happening in the world from a point of view informed by and interested in communicative and rhetorical perspectives. Oddly, this has not

happened, but I still have hopes that it will as we teach ourselves the possibilities of computer mediated communication (Tom Benson, CRTNET May 5, 1988).

Many of the hopes inscribed in the democratic discourse espoused by other BBS users have not been fulfilled in practice either. Though viewed by some as sites for decentralized and democratic resistance to the dominant social order, virtual space communities, structured by access to non-profit bulletin boards, might not be as consistently democratic as advocates promise. While 'social movement' - sponsored BBSs may be utilized as a politicization and strategic lobbying tool, the unstructured chatter of most computer-based conversation may in fact be diverting participants from directly facing the critical social, political, economic, and cultural issues of the present and future. Furthermore, if social relations are already embodied within the design and construction of the computer through its design and the construction of its software, as Raymond Williams (1974) and Marike Finlay (1987) would argue, then democratic use of the technology should encompass opportunities to redesign and reconstruct available hardware and software to surpass its present limits and to suit specific goals other than those preconceived by technical manufacturers.

Democracy does not lie merely in access to technology, but in equitable access to opportunities to speak, to respond to others' speech, and to be heard in public with or without the assistance of technology. Economic wealth does provide easy access to information technologies but this is a privileged power, one which divides a population into computer literate (skilled) and illiterate (unskilled) segments. As Jean Baudrillard

succinctly states, the real monopoly is never that of technical means, but of speech (Baudrillard 1981: 164-184). It is in the use of technology for expression of minority / different knowledges and points of view to large and interacting publics that one finds its greatest social and political power. [Note the recent example of Chinese students' use of the media.] A democratic framework for computer technology would also assure equal economic access to computers by all and any who are interested in publicly speaking with the assistance of this technical form.

Conclusion

It is not surprising that the phenomenon of the computer bulletin boards has arisen toward the end of the twentieth century as a means of electronically constructing micro-publics. Due to rapid social, economic and political changes, individuals alienated from their social and physical environments have been engaged in a search for alternative forms of community since the late nineteenth century.

Romantic nostalgia about ideals of past community life have circulated in the public sphere for more than a century. More recently, John Dewey's "eclipse of the public", George Grant's lament for a nation, Robert Nisbet's quest for community, and Harold Innis' nostalgia for the continuity of time-binding communities are common themes in a theoretical conversation about community and public life in democratic societies. The centralization of state power and the widespread bureaucratization of authority as a result of technological development have hindered the establishment of old and new relevant forms of

community and public debate. According to Robert Nisbet, the central problem of our era consists of how to construct a political and social order in which pluralism and decentralization would enable forms of community and public participation to evolve, and whose very diversity would be the guarantee of their members' freedom from authoritarian power (Nisbet, 1953). The search for community identity in free and unrestrained public discursive spaces, the opportunity to participate in normative planning about technological and local, regional, and national cultural development, the return to credibility of the local knowledge and the local community culture as a basis upon which to build one's identity are implicit themes in recent theoretical works.

Some like the Luddites and like John Dewey (1927) have argued that conversation on an interpersonal basis is the "ultimate context within which knowledge is to be understood" (Carey 1989: 80), that the way to recover a sense of community identity is through face-to-face communications. "Conversation", Dewey writes, "has a vital import lacking in the fixed and frozen words of written speech. Systematic inquiry into the conditions of dissemination in print is a precondition of the creation of a true public. But it and its results are but tools after all. The final actuality is accomplished in face-to-face relations by means of direct give and take" (Dewey 1927: 217-219). Dewey assumed that public community life would take place outside of the technological environment.

Others like those involved in the Alternative Technologies movement address the problems of geographical community disintegration, alienation, centralization, and dehumanization at the workplace by attempting to construct interest-based electronic discursive spaces to

which they devote much of their personal energy and leisure time. The thousands of "biased" or "privileged" electronic networks appear to some to be a technological solution to the deterioration of other forms of local, regional, and national communities. Virtual space communities are constituted as communities of micro-publics, sometimes linking up with one another to form coalitions of interest[4], but in most cases operating within independent spheres accessible to authorized local and regional users.

From a positive point of view, the impact of computer bulletin boards - to help organize users, to provide relevant information services to target interest groups - has been to facilitate the construction of more informed micro-publics about particular issues or activities relevant to their interests. Access to diverse sources of information may in turn enable citizens to be better prepared for effective lobbying. Most importantly, and on the negative side, computer bulletin boards will probably draw users more deeply into the the ideology of technology, already so enveloping in what has come to be called the "Information Society".

Basically, BBS users are "contained" and isolated publics tending to interact with members of their own constituencies. As such, they do not appear to be too powerful a public force in North American society. In the future, when linkages to larger gateway services such as Fidonet[4] become commonplace, discrete virtual space communities will begin to easily interact with one another. At this time, micro-publics will expand considerably and might become a serious social, political, cultural, and economic force with which to contend.

The digital web of decentralized bulletin board networks across North America may not replace face-to-face communications in the near future. Virtual space communities, however, are multiplying in number and are offering members a novel cultural form in which to participate in public debate at local, regional, and national levels. Despite its technical, social, and economic limitations, this electronically-mediated interactive form and forum can no longer be considered insignificant to public opinion formation.

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Endnotes

[1] Network host software refers to the program which allows a computer to receive incoming calls from other computers and to present its BBS personality.

[2] Generally, there is a nominal registration fee and an ongoing affordable monthly upkeep cost for participation in a non-profit board. Some bulletin boards in North America are free to access, though these tend to be of a more ephemeral nature than those which involve some fee. (See listing of Montreal boards in Appendix I for further impressions about cost.)

[3] Pseudonyms recently used on a local Montreal board include such names and matching personalities as: Lord Zilla, Plume, Angel, Fern Tree, MidiManiac, Perfec-Son, among others (Hydromet [Montreal] User List, 1989). [See Appendix II for other examples.]

[4] Fidonet, a new gateway to a variety of optional services, has recently become available to local Montreal BBS users. Fidonet will enable innumerable linkages among different BBS networks to take place. This gateway could potentially become a very powerful organizing tool for large public constituencies.

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